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CALIFORNIA
HISTORICAL
RADIO
SOCIETY



RADIO NEWS

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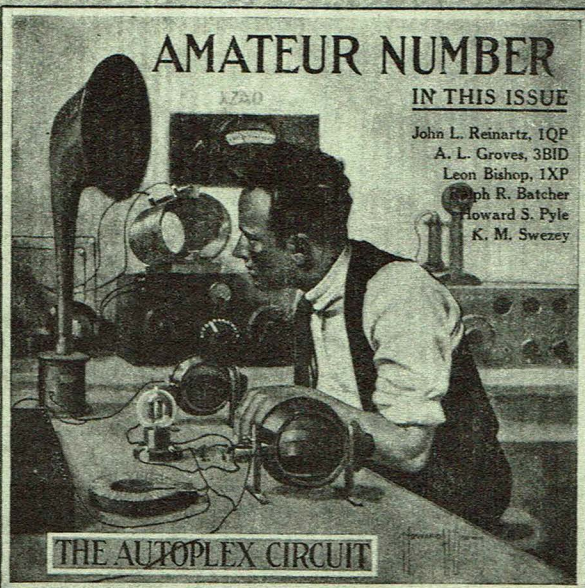
Edited by H. GERNSBACK

AMATEUR NUMBER

1750

IN THIS ISSUE

John L. Reinartz, 1QP
A. L. Groves, 3BID
Leon Bishop, 1XP
Ralph R. Batchler
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THE AUTOPLEX CIRCUIT

THE 100% WIRELESS MAGAZINE

CALIFORNIA HISTORICAL RADIO SOCIETY INC.

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San Jose, CA. 95112

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For membership correspondence address the Treasurer, James Cirner, 13366 Pastel Lane, Mt. View, CA. 94040. Articles and non-commercial ads for the journal should be submitted to the Editor, Allan Bryant, 4251 Blewett Street, Fremont, CA. 94538. Historical data for copying or donation should be sent to the Historian, Larry LaDuc, Jr., 484 Arleta Avenue, San Jose, CA. 95128.

THE SOCIETY

The California Historical Radio Society is a non-profit corporation chartered in the state of California, and was formed to promote the restoration and preservation of early radio and radio broadcasting. Our goal is to provide the opportunity to exchange ideas and information on the history of radio (in California especially). We hope to be of service to those interested in such areas as collecting of equipment, literature, and programs, etc., and restoration of early gear. Regular meetings and swap meets are scheduled at least four times a year in the San Jose area. We now have over 100 members from throughout the state (and a few from out of state). As we grow so do our benefits to our members. Tell your friends about us!

The Official Journal of the California Historical Radio Society is published quarterly and is furnished free to members. Our first issue was published in September 1975 and copies of early issues are still available; the first issue is \$2.00, others are \$1.00 each. Articles for the Journal are solicited from all members. Any items of interest, such as restoration hints, information on early radio broadcasts and personalities, anecdotes about the pioneers, etc., will be gratefully accepted. Anyone interested in editing a section of the magazine on a full time basis should contact the editor. This can relieve our editor of a great deal of work and insure maximum attention to your area of particular interest.



COLLECTOR SPOTLIGHT

ALAN SMITH



Alan Smith is a relatively new collector who began in 1973. As usual, he began by collecting anything he could find, then as space ran out, he began to specialize. His interests include RCA receivers of the 1920's, laboratory instruments, and communication receivers of the 30's.

Figure 2 shows Alan's favorite receiver, a Radiola 26 with home battery box. The set is a completely self contained six tube superheterodyne with loop antenna in the door, built-in loud speaker and internal batteries.

Figure 3 shows another part of Alan's collection.

Alan lives in the San Diego area where he heads a small electronics company. He is a member of CHRS, AWA, CVWA, and is secretary/treasurer of The Southern California Antique Radio Society.



2



3

RESTORATION HINTS

RESTORING THE MAJESTIC "B" ELIMINATOR

By Allan Bryant

In this article I will discuss the restoration of the Majestic "B" Eliminator. Specifically the Standard and Super models.

These eliminators employ a fullwave, gastype, cold cathode rectifier - a BH tube. Three voltage taps and a ground are provided at the output of the supply. In addition, the primary of the power transformer is tapped, providing two voltage ranges which are selected by the "Hi-Low" switch on the front panel. The voltage outputs are controlled by the setting of two carbon compression type pots.

To begin the project, lift off the top of the case and remove the BH tube. Pull the tube straight up and out of its socket. Test the tube. The BH tube is normally good for about 4000 hours service. After that the voltage output will drop off. Flip the unit over and remove the four screws holding the rear half of the case. Loosen the two screws holding the front panel. The front panel and case join to form a "track". The case should now slide upwards riding in that "track". A screwdriver is usually necessary to get things moving. Note that the bottom edge of the case has a lip on it that tends to catch the internal wires as the case is lifted off. Another way to remove the case, is to press in at the joint of the front panel and case on the right hand side so as to disengage the track. Then bend the right side out enough to clear the wires and ride the case upon the left hand track.

With the case off, make a continuity check of the chokes, transformer, and pots. The detector resistor is a high failure item, it should measure 7,000 ohms. Its failure symptom is a high detector voltage.

Now we come down to the most common failure - shorted capacitors. As most collectors know, you just cannot trust these old capacitors. Even if the unit is presently running, it should be recapped. The capacitor values, shown on the condenser bank diagram are original. You can save space and money by converting to the values shown on the schematic. However, there is a lot of space available in the can, so you might just want to use what you have on hand. The values of the filter capacitors are not critical, but to remain within the desired voltage range, do not exceed 5 MFD. Voltage values are 450 volts, except for the two capacitors across the transformer secondary. These are used to prevent oscillation across the rectifier tube, and should be rated at 600 v.

All the capacitors are contained in one tin box. To avoid confusion, I suggest marking the terminal numbers shown on the schematic, directly onto the unit. A grease pen works excellent for this purpose. Remove and label all wires soldered to the capacitor box. Then remove the two screws that are holding the front panel in place, and move it as far out of the way as the wires will permit. The capacitor box and all other boxes in this unit, are held between two metal plates which are riveted to the base of the unit. Several long bolts pass through these plates and hold the boxes in place. Remove all these bolts, then clip off the ground wire on the rear of the capacitor box. Next slip the tube socket and its mounting plate forward and free of the unit. The capacitor box can now be slid forward between the rails and removed.

We can now replace the capacitors. Begin by bending the lip on the box outward, so that the cardboard panel can be removed. Pry the panel out of the box and cut all internal wires leading to it. Take the panel and clean it up, then attach the new capacitors to it being sure to observe polarities and avoid shorts. Next, we have to get the old capacitors out of the can so we can re-use it. The safest way to do this is with a heat gun. I have found that a gun with a 300 degree output works well. To set it up, stand the capacitor box on end and direct the gun at it. In a short time, the tar will run out, and when you invert the box tar capacitor pack will slip out.

When the above is finished, you are ready to reinsert the capacitors. First put some foam rubber in the bottom of the can to help support the capacitors. Next slip the cardboard panel back into place and bend the metal edges down to secure it. Put the box back in position between the rails then reposition the bolts that hold the metal plates together.

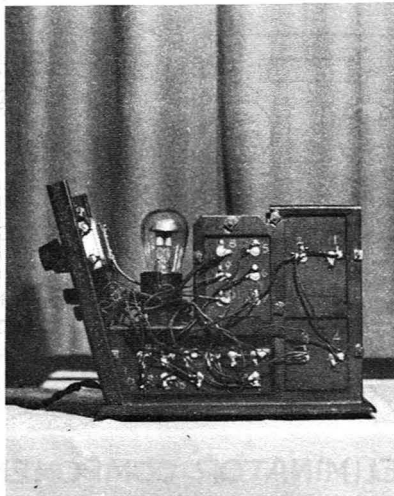
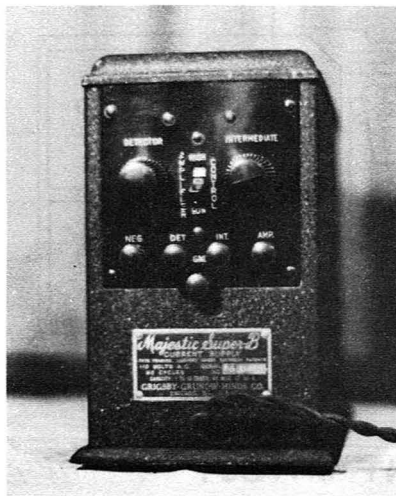
Now is a good time to inspect the condition of the wires in the unit. Replace any that are bare, or have cracked insulation. Resolder the wires leading to the capacitor box. You may also want to install a fuse in the primary circuit at this time. Remember to make it accessible from the top cover. The front panel and case can now be reassembled. Reverse the process you used to take them off. Be careful not to snag any wires, when putting the case on, or mash any wires under the edge, when tightening it down. Place the BH tube in its socket.

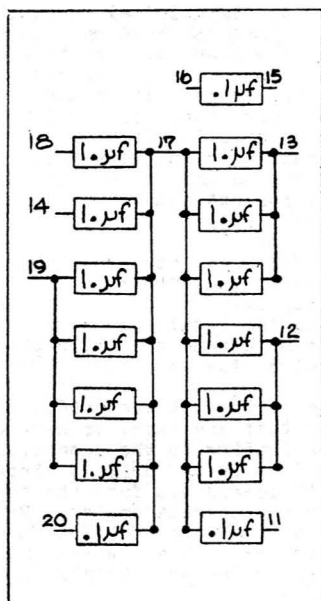
Turn the unit on and measure the output voltage in the low range without a load. You should see these approximate voltages (adjust pots for maximum reading) Det = 70 v max, Int = 180 v max, Amp = 250 v max. Note that the amplifier voltage, varies inversely with the detector value. If you have no output and your unit uses circular shaped pots (vs. oval), look for a short between the pot case and front panel. If you find one, a little electrical tape will clear it up.

When using this and other eliminators remember to always turn on the filaments before applying B₊, and always turn off the B₊ before powering down the filaments.

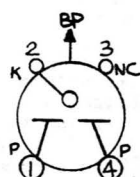
Good Luck.

Allan Bryant, 4251 Blewett Street, Fremont, Calif. 94538
651-1458

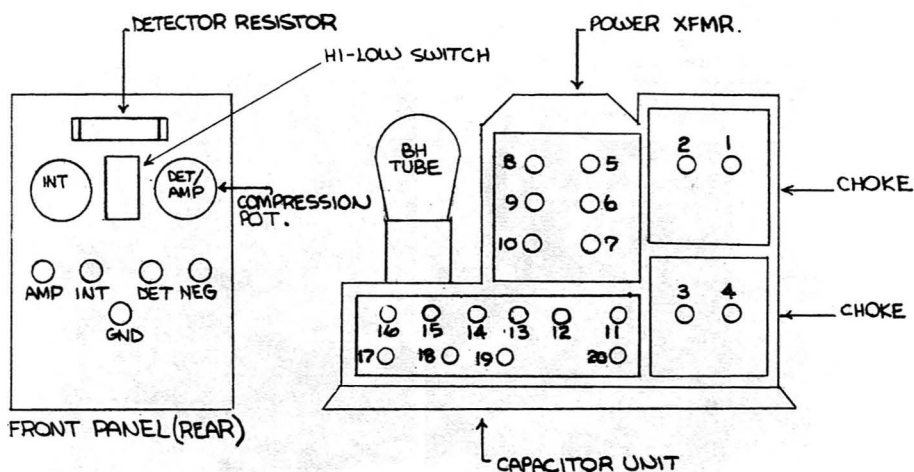




CONDENSER BANK
(INTERNAL)



BH BASE DIAGRAM

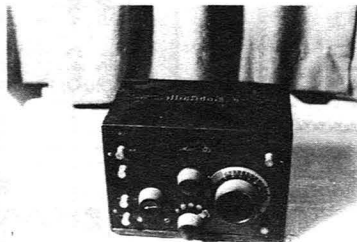
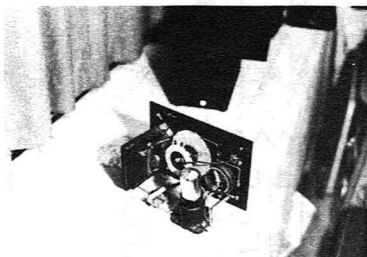


ELIMINATOR COMPONENT LAYOUT

MAJESTIC STANDARD, SUPER "B" ELIMINATOR

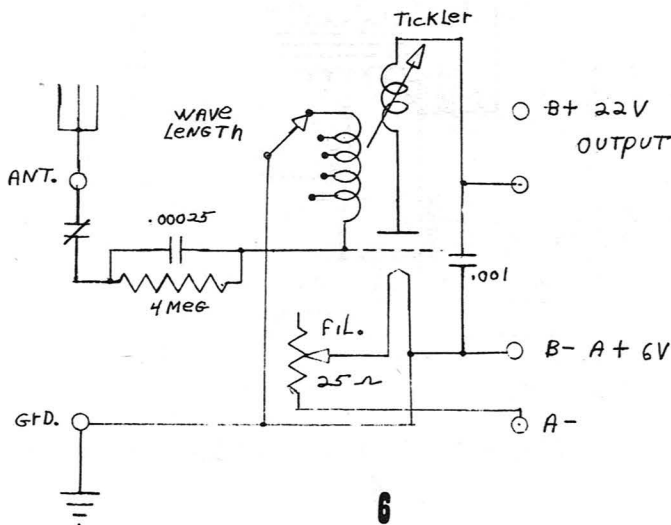
FEATURED SET

CROSLEY 50

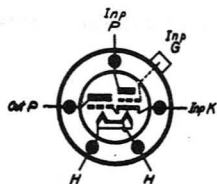
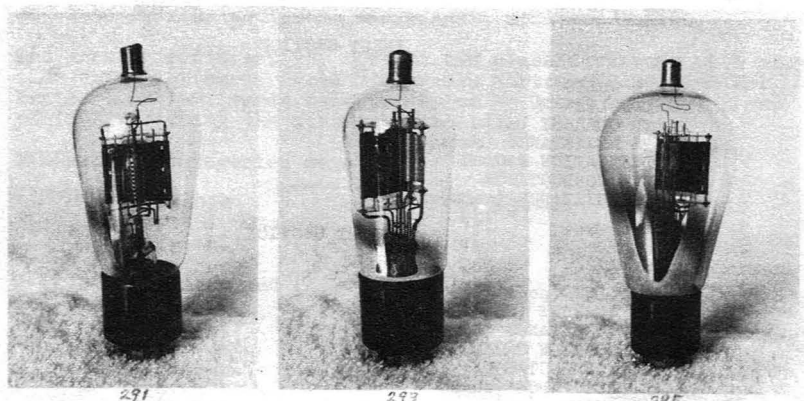


By Jim Cirner

The Crosley 50 is a one tube regenerative radio receiver. It was manufactured in 1923/24. There was a two tube amplifier available to operate a horn speaker, if you didn't want to use earphones. The tap switch changed the RF tuning range. From the picture you might notice the strange tuning capacitor. Crosley called it a type D capacitor. It is constructed with one stationary plate and one moveable plate. There is metal on each plate with a sheet of mica in between to prevent them from shorting out. The tickler coil which is the regeneration control is a slide in, slide out coil. The tube used is a 01A. This particular set I used for this article was manufactured by De Forest Radio Corp., Toronto, Canada. It is double labeled. It says Crosley 50 with De Forest engraved above it. It also has a Canadian Westinghouse tube in it, no. WX-199. This radio is identical to the American set. I believe it was made in America and labeled De Forest in Canada. Also, the De Forest engraving is different than the Crosley 50 engraving.



THE TUBE COLUMN



Base connections
(same for each tube)

Fig. 4

SPEED Triple-Twin Tubes

The triple-twin tube consists of two sets of three Elements; the first set handles the input, and the second, the output. The input section operates with an indirectly heated cathode, the cathode being internally connected to output grid. Thus, we have the "Cathode-follower" circuit. This proved to be a valuable discovery/invention. The Bell system bought the "Triple-Twin" patent, so they could utilize the circuit. Dealers were no longer permitted to sell the Triple-Twin tubes. Hence, their rarity.

There were three types: 291 (for use in 110 volt d.c. receivers,) 293 (automobile receivers), and 295 (a.c. powered sets). Each had a 5-pin base, plus top cap. These tubes were manufactured by the Cable Radio Tube Corp., Brooklyn, N. Y.

References: Proc. I.R.E., Vol. 20 No. 7, July 1932
pages 1149-1162.
Dealers & Servicemen Radio Tube Manual
(Earl Webber Co.) - c. 1930's.
Radio News - March and June 1932.

TYPE 291

TRIPLE TWIN AMPLIFIER

TYPE of CATHODE	HEATER & FILAMENT
FILAMENT SUPPLY	A.C.
FILAMENT VOLTS	12.3
FILAMENT AMPERES	0.3

TYPE of BASE	MEDIUM 5 PIN
--------------	--------------

INPUT SECTION

PLATE VOLTS	120
GRID VOLTS	-11
PLATE CURRENT (ma)	3.0
PLATE RESISTANCE (ohms)	8700
AMPLIFICATION FACTOR	6.8
MUTUAL CONDUCTANCE	780
LOAD RESISTANCE (ohms)	20000

OUTPUT SECTION

PLATE VOLTS	120
GRID VOLTS (positive)	11
PLATE CURRENT (ma)	30
PLATE RESISTANCE (ohms)	4400
AMPLIFICATION FACTOR	11.2
MUTUAL CONDUCTANCE	2550
LOAD RESISTANCE (ohms)	3000
POWER OUTPUT (mw)	1250

TYPE 293

TRIPLE TWIN AMPLIFIER

TYPE of CATHODE	HEATER & FILAMENT
FILAMENT SUPPLY	A.C. - D.C.
FILAMENT VOLTS	6.3
FILAMENT AMPERES	0.6

TYPE of BASE	MEDIUM 5 PIN
--------------	--------------

INPUT SECTION

PLATE VOLTS	173.5
GRID VOLTS	-6.5
PLATE CURRENT (ma)	4.0
LOAD RESISTANCE (ohms)	100000

OUTPUT SECTION

PLATE VOLTS	180
GRID VOLTS (positive)	6.5
PLATE CURRENT (ma)	17.5
LOAD RESISTANCE (ohms)	8000
POWER OUTPUT (mw)	1250

TYPE of CATHODE	TYPE 295	HEATER & FILAMENT
FILAMENT SUPPLY		A.C.
FILAMENT VOLTS	TRIPLE TWIN AMPLIFIER	2.5
FILAMENT AMPERES		4.0

TYPE of BASE	MEDIUM 5 PIN
--------------	--------------

INPUT SECTION

PLATE VOLTS	250
GRID VOLTS	-14
PLATE CURRENT (ma)	4.0
PLATE RESISTANCE (ohms)	12000
AMPLIFICATION FACTOR	14.4
MUTUAL CONDUCTANCE	1200
LOAD RESISTANCE (ohms)	7500

OUTPUT SECTION

PLATE VOLTS	250
GRID VOLTS	-3
PLATE CURRENT (ma)	52
PLATE RESISTANCE (ohms)	3000
AMPLIFICATION FACTOR	13
MUTUAL CONDUCTANCE	4350
LOAD RESISTANCE (ohms)	4000
POWER OUTPUT (mw)	4500

SUMMER MEET AT FOOTHILL

This years swap meet at Foothill was jointly sponsored by the Southern California Antique Radio Society.

The morning swap meet was attended by over one hundred people with eighty-six people pre-registered. There were many sellers and lots of fine equipment was bought, sold and traded.

The morning radio contest covered ten classifications with many fine sets displayed. Judges were Guy Martin (SCARS) and Mel Prater (CHRS). Awards were presented by Grant Manning, Pres. of (SCARS) during the afternoon session.

Winners and categories were:

1. Wireless	1st place	Pete Langlo
2. Crystal Sets	1st "	Henry Meyer
3. Home built	1st "	Dick Eckert
	2nd "	Larry Anderson
4. Reflexes and Superhets	1st "	Nick Matulich
	2nd "	Gary Durkee
5. Electrics (1927-1930)	1st "	Peter Brickey
6. Electrics (1931-1941)	1st "	Stan Lopes
7. Best Manufactured Calif. Set	1st "	Hank Eckhart
	2nd "	Dan Evanich
8. Best Overall Set of the 7 Categories	1st "	Dan Evanich
9. Best Restored Set of the 7 Categories	1st "	Nick Matulich
10. Most Unusual Set of the 7 Categories	1st "	Floyd Lyons

In the afternoon session we were honored by two very fine guest speakers.

First, Morgan Mc Mahon spoke on earthquake protection for radio collections. He discussed different types of shelving and methods of protecting your sets. With a little precaution a lot of your equipment could be saved if even a mild earthquake were to take place. I'm sure that for those of you who were not able to attend, by writing to Morgan he would be happy to supply you with the information.

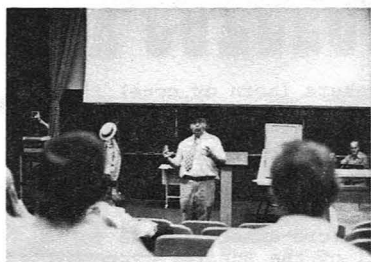
As collectors we look at design and manufacturing. From our second guest we were presented with a program about the other side of radio. George Steiner comes from the pioneers of radio broadcasting and had the honor of being a part of the last four years the Lone Ranger series was on radio. Mr. Steiner split his audience into two parts for sound effects in his little skit, and it proved we have a few "hams", etc. His master of mimicry and dialog were outstanding which made for a most enjoyable afternoon. Mr. Steiner was assisted on sound effects by Mr. Paul Smith, one of radios outstanding engineers. Mr. Smith's credits include engineering radio programing and record recordings for such outstanding performers as Bing Crosby, Jack Benny, Benny Goodman, Tommy Dorsey, Jimmy Dorsey, Red Nichols, to mention a few.

Our thanks to our guests for a fine program and many thanks for the co-operation of the Southern California people, Grant Manning, Alan Smith and Guy Martin.

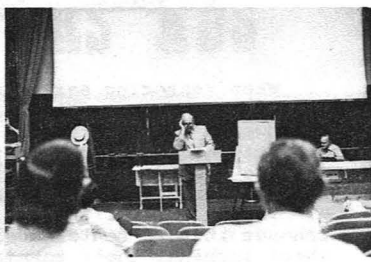
Your President,

Norm Berge

GEORGE STEINER



PAUL SMITH



JUNE 1977 SWAP MEET



HINTS

When restoring early speakers (horn or cone) it is often the case that the field coils will have to be rewound. Once this is done the problem of how to connect the coils so that they are correctly in phase and the positive and negative terminals on the receiver will be correctly hooked up to the speaker remains.

Take a speaker that is known to be good and connect it to a center scale micro-ammeter, note to which terminal the + terminal of the speaker is connected. Give the speaker diaphragm a sharp tap on its center and note the direction of the initial meter kick.

Connect the repaired speaker to the meter and tap its diaphragm, arrange the coil connections to give the maximum kick (if one of the coils is connected in reverse it will oppose its partner and give a smaller kick on the meter).

When the coils have been connected correctly give the diaphragm a sharp tap and note the direction of the meter kick, arrange the speaker connections (to the meter) so that the initial kick is in the same direction as it was for the good speaker. The wire that goes to the same terminal as the positive lead of the good speaker will be the positive terminal of the repaired speaker.

By Peter Brickey

A new book called "Collecting Old Radios and Crystal Sets" by Max Alth is available from Mid-America Book Company, Leon, Iowa, 50144 at \$7.95. This company is the largest distributor of antique books and magazines in this part of the country. Courtesy Dave Mc Kenzie, Iowa.

Try the following for vintage tubes and parts:

Arrowhead Radio & Television Supply Company
1212-16 "D" Street, San Bernardino, Calif. 92405

Haltek Electronics Company
1032 Linda Vista Avenue, Mt. View, Calif. 94043

T. J. Specialties Company
P. O. Box 43, Bradley Beach, New Jersey 07720

THINGS THAT NEVER HAPPENED!



THE COLLECTOR'S ADS

FOR SALE Kolster K6, very clean, \$45.00. Also, miscellaneous parts; send SASE for list.
WANTED Large collection of old radios and speakers. Please send list of types, quality of set and price. All letters answered. Floyd Paul, 1545 Raymond St., Glendale, Calif. 91201.

FOR TRADE De Forest Crosley 50 available. Front panel has De Forest engraved above Crosley. Has paper guarantee card stating manufactured by De Forest Radio Corp., Toronto, Canada. Very good Condition.
WANTED Amrad tuner detector to go with two tube Amrad audio amplifier. Also, interested in one and two tube sets and crystal sets. Jim Cirner, 13366 Pastel Lane, Mt. View, Calif., (415) 967-7672.

WANTED Crosley collector needs following models: XL, VIII, 50 portable, 3C, #1 crystal, 1 tube detector unit, any wood condensor set with rounded-edge cabinet. Will buy or trade. Stew Oliver, 3197 San Pasqual, Pasadena, Calif. 91107, (213) 796-3361.

WANTED Help! Am restoring Fada 195A bought as a bucket of loose parts. Would like to get Schematic and see complete set. Can you help? Bob Lindsay, 901 Ferngrove Dr., San Jose, Calif. 95129. (408) 996-0498.

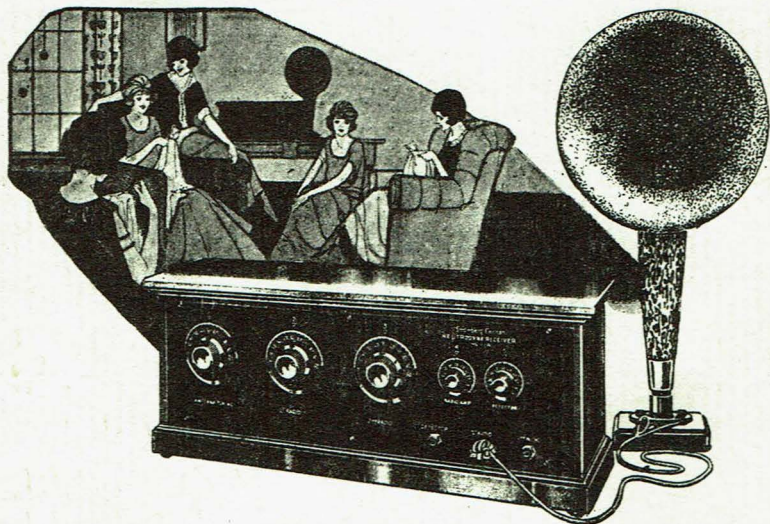
FOR SALE (Or Trade) 1947 Motorola 7 inch TV, Jewel pattern 210 tube tester.
WANTED Cabinet for Standardyne Model B-6, power transformer for Clarion Jr. Model AC-60. William Fox, Jr., 624 Jefferson Court, San Jose, Calif. 95133. (408) 258-9972.

WANTED Atwater Kent breadboard, any model. Gerald Newton, Route 1, Box 262, Woodland, Calif. 95695.

WANTED National SW-3's in any condition. Also need SW3 coils and power supplies. Will buy or trade. Have tubes and old sets. F. R. Tesche, 3728 Mosswood Dr., Lafayette, Calif. 94549 (415) 284-5608.

Reducing collection. Twelve radios for sale. Send S.A.S.E. for list and prices. C. Byrnes, P. O. Box 158, Cupertino, CA. 95014.

WANT ADS ARE FREE TO ALL MEMBERS OF THE CALIFORNIA HISTORICAL RADIO SOCIETY. SUBMIT ADS TO THE EDITOR, ALLAN BRYANT, 4251 BLEWETT STREET, FREMONT, CA. 94538. DUE TO THE NON-PROFIT STATUS OF OUR SOCIETY, WE CANNOT ACCEPT ADS OF A COMMERCIAL NATURE.



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